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Note by the Secretary-General

The Secretary-General has the honour to transmit to the Security Council the nineteenth quarterly report on the activities of the United Nations Monitoring, Verification and Inspection Commission (UNMOVIC) (see annex). It is submitted by the Acting Executive Chairman of UNMOVIC in accordance with paragraph 12 of Security Council resolution 1284 (1999) of 17 December 1999.

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Annex

Nineteenth quarterly report on the activities of the United Nations Monitoring, Verification and Inspection Commission in accordance with paragraph 12 of Security Council resolution 1284 (1999)

I. Introduction

1. The present report, which is the nineteenth submitted in accordance with paragraph 12 of Security Council resolution 1284 (1999), covers the activities of the United Nations Monitoring, Verification and Inspection Commission (UNMOVIC) during the period from 1 September to 30 November 2004.

II. Developments

2. During the period under review, the Acting Executive Chairman has continued the practice of briefing the respective Presidents of the Security Council, representatives of Member States and officials of the Secretariat on the activities of UNMOVIC.

3. The comprehensive report of Charles Duelfer, the Special Adviser to the United States Director of Central Intelligence for Iraq's Weapons of Mass Destruction, was released to the public on 6 October. Mr. Duelfer and a team from the United States-led Iraq Survey Group visited UNMOVIC on 8 October to present their findings, the scope of their work and the methodology used in carrying out their work in Iraq and noted in particular that extensive documentation still had to be analysed. UNMOVIC is studying the public report and is comparing its own knowledge and findings with those of the Survey Group. Initial comments on specific findings of the report are attached (see appendix). It should be noted that UNMOVIC does not have access to any of the supporting documentation, interview testimony or details of site inspections carried out.

Status of sites, equipment and materials subject to monitoring

4. During the period under review, the Commission's experts have continued to use commercial satellite imagery to assess the status of sites subject to monitoring, many of which have sustained damage since the withdrawal of inspectors in March 2003, and in some cases have been razed or otherwise compromised. Those sites contained a range of dual-use equipment and materials whose status is unknown, except for those identified in scrap yards outside Iraq.

5. Two sites of particular significance given their involvement in Iraq's past weapons programmes, and their size and inventory of weapons of mass destruction-related material are the Muthanna State Establishment and Al Qaa Qaa State Establishment. The following is a summary of the changes observed at locations within these sites and the types of material once located there, as determined by past UNMOVIC inspections and satellite imagery:

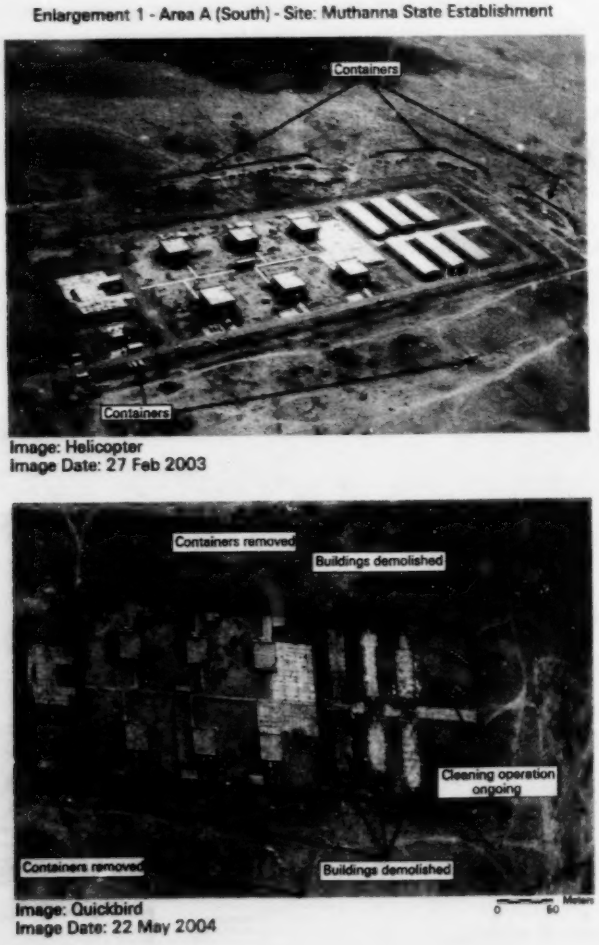
The Muthanna State Establishment

6. The Muthanna State Establishment was Iraq's prime chemical weapon research, production and storage facility (see figure 1). Most of its structures were destroyed or heavily damaged by aerial bombardment during the 1991 Gulf war. After the adoption of Security Council resolution 687 (1991), all chemical weapon-related activities at the site were terminated. In the period from 1991 to 1994, the Establishment was used by Iraq as a dedicated area for the destruction of chemical weapons, under international supervision, including munitions and bulk agents, precursor chemicals and remaining chemical process equipment. This was outlined in appendix I of the eighteenth report of UNMOVIC (S/2004/693). All hazardous wastes resulting from the destruction of chemical weapons were sealed at several structures and areas of the site. These included two bunkers, one of which contained hundreds of 122-mm artillery rockets that had been filled with the nerve agent sarin in the 1980s, that could now have been degraded. These rockets were damaged by aerial bombardment in 1991. This bunker also had containers used in the past for the storage of chemical weapon agents, as well as toxic chemicals, such as some 100 tons of cyanides and some tens of kilograms of arsenic salt. The other bunker contained hundreds of empty 155-mm chemical artillery shells, possibly having residual chemical weapon contamination. Chemical process equipment that had been destroyed or rendered harmless was placed in another dedicated area within the Muthanna site. In 1994, the Muthanna site was closed and a hand-over protocol was signed by Iraq and United Nations Special Commission returning control of the site to Iraq and stating specific procedures to be followed by Iraq regarding the management of sealed structures and areas.

Figure 1
Muthanna State Establishment, Iraq's main chemical weapons production facility

7. After the withdrawal from Iraq, UNMOVIC continued its observation and evaluation of the Muthanna area through commercial satellite imagery, paying special attention to the sealed structures. As of May 2004, no changes at the area of the two sealed bunkers were observed. Analysis of imagery revealed that some structures other than the sealed ones within the area that contained old equipment destroyed or rendered harmless during the period from 1991 to 1994 had been demolished and removed, together with other equipment (see figure 2). This equipment (reactors, heat exchangers, distillation columns and tanks etc.), although rendered harmless, was not fully destroyed in the 1990s, and Iraq had earlier repaired several items of this equipment and had used them for non-proscribed activities at other commercial chemical facilities. UNMOVIC verified these repaired items and had designated them for destruction. However, the destruction of this equipment as well as other equipment remaining at Muthanna was not completed because of the withdrawal of UNMOVIC from Iraq.

Figure 2
Storage area at Muthanna: razing of buildings



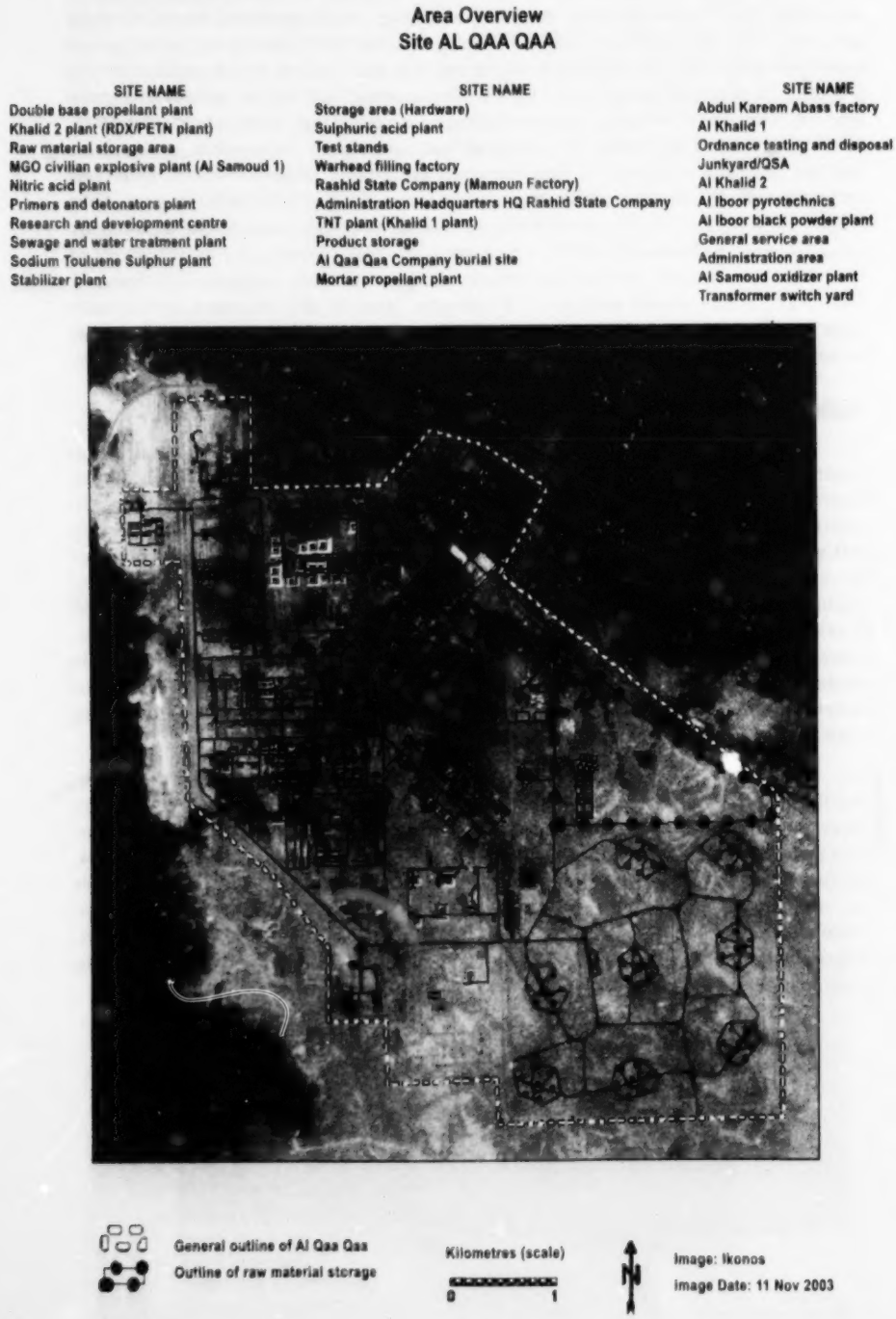
8. The report of the Iraq Survey Group provides information regarding the current status of the Muthanna Facility which facilitates the Commission's overall assessment of the site which was subject to monitoring. It is stated that all sealed structures at the site had been breached and some equipment and materials were removed. The Iraq Survey Group further reported that stockpiles of chemical munitions were still stored in the bunkers and that the bunkers tested positive for the presence of chemical weapon agents. The Group noted that this is not unusual given the munitions once stored there and conditions in which they were stored post-1994. Further, the report states that the extent of looting makes it impossible to determine whether the Government of Iraq removed equipment after 1998, or if it was removed after March 2003. However, in December 2002, UNMOVIC inspected the bunker area of the Facility and found all sealed structures intact and guarded by Iraqi security. In the early 1990s, it had not been possible to make an inventory of the damaged bunker containing filled artillery rockets because of hazards. Therefore, it was sealed with tons of concrete. Now, if this structure has actually been breached as stated by the Iraq Survey Group in its report, there can no longer be any certainty about whether all its contents are intact.

Al Qaa Qaa State Establishment

9. Al Qaa Qaa State Establishment, a subsidiary of the Military Industrialization Commission, is one of the major weapons-related industrial complexes in Iraq (see figure 3). Extending over an area of about 30 km^2, it comprises more than 20 administratively distinct production sub-units and several stores, weapons testing and waste disposal sites, shared among all of its facilities. The main objectives of the site were the production and storage of explosives, propellants and missile oxidiser, the filling of conventional munitions and warheads, and research and development activities related to missile and rocket systems. The range of weapons-related capabilities present at Al Qaa Qaa made this one of the most capable production centres within the Military Industrialization Commission's system of enterprises. An analysis of what has occurred at one sub-site may provide an illustration of what has taken place at this site since March 2003.

10. Analysis of satellite imagery (of 11 November 2003) revealed that more than one third of the 1,100 structures at Al Qaa Qaa are destroyed. Some of this damage seems to have been caused by fire. Extensive looting may also be responsible for wrecked buildings and missing installations and equipment. As of November 2004, the fate of about 800 pieces of declared chemical equipment known to have been at the site is uncertain. This includes about 100 heat exchangers, 60 storage vessels/receivers, 12 separators, and more than 60 columns and reactors. Approximately 200 missile-related items were also present at Al Qaa Qaa, including more than 60 mixers or kneaders, 8 extruders and 20 conventional warheads.

Figure 3
Overview of Al Qaa Qaa State Establishment



Chemical raw materials stores at Al Qaa Qaa

11. When the chemical raw materials stores, mainly missile propellant-related, were inspected by an UNMOVIC team in December 2002, the stores were found to be well organized, although some of the buildings that had been damaged by military attacks in 1991 had still not been refurbished. The inspection team recorded a full inventory of the stores and was able to compare its findings with the records provided by site personnel. The stores were inspected again in February and March 2003 by other UNMOVIC teams in order to verify the materials at the site.

12. Analysis of satellite imagery of November 2003 reveals that all buildings at the chemical raw materials stores have been destroyed (see figure 4). Some buildings appear to have war damage, but most damage seems to be the result of wide-scale and intensive fires. This assessment is supported by the inventory of materials at Al Qaa Qaa made during the re-baseline inspections in 2002/03. Given the nature of chemicals in those stores (a variety of propellant and stabilizer materials, including 3 tons of aluminium-magnesium alloy, 23 tons of magnesium powder, 2.2 tons of hydrazine hydrate, 2.5 tons of 2-nitrodiphenylamine), any event causing these materials to catch fire could create damage such as that shown on the satellite images. For example, powdered metals like aluminium or magnesium react violently with air when ignited, reaching temperatures of 2,000° C. Finely dispersed, powders of metals and graphite may also result in dust explosions when sources of ignition are present while other chemicals would enhance the combustion reactions. Therefore, it cannot be excluded that the majority of the materials known to have been there during the period of United Nations inspections have been destroyed.

Figure 4
Storage area at Al Qaa Qaa: razing of buildings

Site : Raw Material Storage (chemicals)
at Al Qaa Qaa
Image: Ikonos
Image Date: 10 Mar 2002
Image: Quickbird
Image Date: 11 Nov 2003

III. Other activities

Destruction of SA-2 missile engines and other items

13. As noted in the Commission's last quarterly report (S/2004/693), various items that had been under monitoring in Iraq had been located in June 2004 at scrap yards in Jordan, including 20 SA-2 engines. With support from the Government of Jordan, these engines and three more found later by the Jordanian authorities, together with four other missile and chemical-related dual-use items, were destroyed in Jordan during August and October 2004, in the presence of an UNMOVIC inspector. Late

in November, the Netherlands authorities destroyed, in the presence of an UNMOVIC inspector, the 22 SA-2 missile engines found in a Rotterdam scrap yard.

Compendium

14. The Commission has continued its work on producing a compendium of Iraq's proscribed weapons and programmes with an emphasis on lessons learned. An updated summary of the structure and main contents of the various chapters of the compendium was presented to the College of Commissioners during their November meeting. It is expected that the first complete draft will be ready by March 2005.

Ongoing monitoring and verification plan

15. Paragraph 26 of the plan for ongoing monitoring and verification approved by the Security Council in resolution 715 (1991) allows UNMOVIC, after informing the Security Council, to update and revise the annexes of items and materials to which the plan applies. As part of this process, early in November 2004, the Commission convened a panel of external technical experts to assist in conducting a technical review of the provisions concerning biological matters and the associated annex (annex III) of the ongoing monitoring and verification plan approved by Security Council resolution 715 (1991). The panel met for three days and made specific recommendations on items covered by the plan, in the light of the United Nations experience of monitoring and verification and bio-technical advances. It is envisaged that similar review processes will be conducted for the chemical and missile provisions and related annexes. Once the whole process is completed, the revised annexes will be submitted for the information of the Security Council.

IV. Other issues

Field offices

16. UNMOVIC retains a core staff of nine local nationals in Baghdad who maintain the existing offices, laboratories and other equipment at the Canal Hotel. An inventory of remaining UNMOVIC equipment in Baghdad was undertaken by the local staff.

17. The Cyprus Field Office continues to store and maintain UNMOVIC inspection and monitoring equipment recovered from Iraq. The Republic of Cyprus extended to 30 October 2005 the agreement with UNMOVIC and the International Atomic Energy Agency (IAEA) to use the Cyprus Field Office for storage, and as a staging area for staff and supplies should inspections resume.

18. The UNFICYP field security coordinator visited the Field Office in October to assess security precautions in place in offices and warehouse. Whenever appropriate, the staff of the Field Office has continued to work with Customs in Larnaca facilitating shipments of other United Nations agencies and to provide logistics support to UNAMI flight operations.

UNMOVIC network of analytical laboratories

19. To maintain the availability of the network of analytical laboratories established in accordance with the UNMOVIC organizational plan (S/2000/292 and Corr.1) and addressed in its sixteenth quarterly report to the Security Council,

UNMOVIC has initiated action to extend existing arrangements for an additional year, until early 2006. This will provide a total of 11 analytical laboratories available to support the work of the Commission, when so requested. The list of laboratories was set out in appendix II of document S/2004/160.

Staffing

20. There have been few changes in the staffing levels of UNMOVIC since the last report. UNMOVIC staff in the Professional category at Headquarters comprises a total of 51 weapons experts and other personnel drawn from 25 nationalities, 9 of whom are women.

Technical visits, meetings and workshops

21. The Acting Executive Chairman attended the forty-eighth General Conference of IAEA in Vienna in September and visited the Cyprus Field Office at the end of November.

22. UNMOVIC experts have participated in a number of international conferences during the period under review. These included a conference in the Ukraine on the problems of development of laboratories belonging to the system of epidemiological surveillance on dangerous infections and an IAEA-sponsored information technology conference in New York on the acquisition and exploitation of data. An UNMOVIC expert attended the United Nations Geographic Information Workshop in Geneva, which focuses on the establishment of United Nations standards for remote sensing. He also gave a presentation to the Organization for Security and Cooperation in Europe on UNMOVIC geographic information systems and remote sensing techniques. Finally, he gave a presentation on UNMOVIC lessons learned from aerial monitoring to a conference of members of the Treaty on Open Skies in Stockholm.

Training

23. A biotechnology training course for experts on the UNMOVIC roster was conducted in Brazil from 11 to 22 October. Sixteen experts from 15 countries and UNMOVIC staff attended the course, which was devoted to enhancing the trainees' technical knowledge and practical skills to conduct monitoring of biological production facilities. The Commission is grateful to the Government of Brazil for the support it provided for the course, and in particular for the provision of access to specialized facilities required for the course.

V. College of commissioners

24. The UNMOVIC College of Commissioners convened in New York for its seventeenth regular session on 17 and 18 November. As on previous occasions, observers from the International Atomic Energy Agency and the Organization for the Prohibition of Chemical Weapons attended.

25. The Acting Executive Chairman briefed the Commissioners on the activities of UNMOVIC since their last meeting. A presentation was made to the College on the Commission's initial comments on the comprehensive report of the Special Adviser to the United States Director of Central Intelligence on Iraq's Weapons of Mass

Destruction. Presentations were also made with respect to the compendium, including a list of the proposed chapters and a brief outline of their contents, and on the Muthanna State Establishment site.

26. The College expressed its appreciation to the Acting Executive Chairman for his oral statement, which raised a number of important issues related to possible future operations in Iraq and for his comments on the report of the Iraq Survey Group. The College also welcomed and discussed the extensive presentations by UNMOVIC staff.

27. The College agreed that the compendium under preparation would be valuable in the context of lessons learned and in identifying proliferation indicators for use in the future. It supported the Chairman's intention to complete a first draft by March 2005. The College welcomed the recent visit to UNMOVIC of Charles Duelfer and his colleagues and hoped that this initial contact would lead to a continuing dialogue at the working level between the two bodies. The College reiterated its support for the UNMOVIC continuing training programme for its inspectors at Headquarters and on the roster as a means of maintaining the existing expertise and experience. The College took note of the work currently under way on the revision of the annexes to the ongoing monitoring and verification plan for Iraq and the Commission's intention to examine adjustments to the focus of the monitoring procedures with respect to quantities of weapons of mass destruction which are not of military significance, due to their potential interest to non-State actors. In doing so, it was pointed out that the nature and scope of any possible ongoing monitoring and verification system, including issues of access, would depend on decisions to be taken by the Security Council. Finally, the College expressed its appreciation of the continuing dedication, experience and expertise of the UNMOVIC staff.

28. It was decided to hold the next meeting on 22 and 23 February 2005 in New York.

29. In accordance with paragraph 5 of resolution 1284 (1999), the Commissioners were consulted on the contents of the present report.

Appendix

UNMOVIC initial comments on the report of the Iraq Survey Group

General

1. The scope of the comprehensive report of Charles Duelfer, the Special Adviser to the United States Director of Central Intelligence for Iraq's Weapons of Mass Destruction, is broader than the scope of Iraq's obligations related to weapons of mass destruction under Security Council resolutions. Thus, the report addresses many issues that are outside the UNMOVIC mandate, such as the role of Saddam Hussein in Iraq, the structure of the former Government of Iraq, regime decision-making process, foreign policy, finance and budgeting and use of oil revenues by the regime. The stated goals of the report regarding Iraq's weapons of mass destruction are to provide facts concerning Iraq's experience with weapons of mass destruction, a dynamic analysis rather than simple static accounting of the debris found, and an account of the regime's activities, trends and directions with respect to weapons of mass destruction.

2. The report presents some information new to UNMOVIC in all of the weapons of mass destruction areas and in varying degrees of detail. Some of this new information has added to the Commission's knowledge, and supports its understanding of Iraq's proscribed weapons programmes.

3. For each of the weapons of mass destruction areas, the report first lists the key findings of the Iraq Survey Group, including its conclusions and judgements. Following these key findings, an overview of Iraq's proscribed programmes is presented, which in most cases is interspersed with the data gathered by the Group. In its historical overview of the proscribed programmes, the report draws heavily on Special Commission and UNMOVIC reports and documents, as well as Iraqi declarations.

4. The report does not include all information on specific activities conducted by the Iraq Survey Group, including lists of all sites visited or evaluated, description of on-site activities carried out therein, and weapons of mass destruction-related documents and records found by the Group in Iraq. It is evident from the report that a major source of information was the Iraqi individuals questioned by the Group. Many of these individuals had in the past also been interviewed by the Special Commission and UNMOVIC. Only some of the Iraqis questioned by the Group are named in the report. The report does not provide a record of their main statements.

5. The report indicates that while the Iraq Survey Group found no evidence of stocks of weapons of mass destruction or bulk agents or the reactivation of proscribed programmes in Iraq, it did not exclude the possibility of small quantities of weapons of mass destruction remaining in Iraq. In many instances, especially regarding Iraq's intentions, the report does not include substantiating information to support the judgements and assumptions it contains.

6. Through an evaluation of Iraq's dual-use capabilities, the report discusses Iraq's possible intentions to restart weapons of mass destruction activities in the event sanctions were lifted. The report does not consider what impact post-sanctions monitoring, as adopted by the Security Council in 1991, might have had. Similarly, the report also does not address the disposition and accounting for dual-use items

and materials kept under the United Nations monitoring system in the past. It does, however, acknowledge on several occasions the efficacy of United Nations inspections in preventing the possible re-acquisition of weapons of mass destruction by Iraq.

7. The report states that the Iraqi intelligence apparatus had sought to compromise the integrity of the inspection process during the period from 1991 to 2003. It would be useful to have a better understanding of any impact such activities may have had. United Nations weapons inspections in Iraq were conducted on the assumption that they would be subject to Iraqi intelligence-gathering activities and had implemented appropriate measures to protect the integrity of the inspection process.

8. Following is a summary of comments by subject area of the information contained in the report that is relevant to the mandate of UNMOVIC, i.e., related to weapons of mass destruction disarmament and ongoing monitoring and verification.

Procurement by Iraq of dual-use items and materials pertaining to weapons of mass destruction

9. Several issues in the procurement section of the report of the Iraq Survey Group are outside the scope of the UNMOVIC mandate and are not addressed here.

10. The report indicates that, since 1997, Iraq's former Military Industrialization Commission had led Iraq's efforts to obtain military equipment and dual-use items and materials pertaining to weapons of mass destruction. These efforts were supported by other Iraqi governmental organizations, such as the Ministry of Higher Education and Scientific Research, the Ministry of Foreign Affairs and the Iraqi Intelligence Service. The Military Industrialization Commission operated a network of associated front companies with subsidiaries in Iraq and abroad. Specific examples were provided in the report to illustrate the procurement by Iraq of items and materials for its missile programmes. The report also provided some new details of the functioning of Iraq's procurement network.

11. The information on procurement presented by the Iraq Survey Group largely corresponds to that obtained by UNMOVIC from inspection activities, interviews and discussions with Iraqi officials, evaluation of retrieved computer files, as well as declarations provided by Iraq. UNMOVIC knew that the Military Industrialization Commission had established and operated a procurement network comprising governmental and private Iraqi trading companies linked to foreign firms, multiple intermediaries, chains of foreign suppliers, bank accounts and transportation companies operating in Iraq and abroad. This information was addressed in the seventeenth quarterly report of UNMOVIC (S/2004/435).

12. The report contains some new details of Iraq's procurement activities that were not known to UNMOVIC, including the involvement of additional Iraqi and foreign entities. On the other hand, not all of Iraq's procurement transactions known to UNMOVIC are directly addressed in the report, for example, relating to specific missile contracts. Thus, it is possible that a combination of the data available to UNMOVIC together with the findings of the Iraq Survey Group may provide a more comprehensive picture of Iraq's past procurement activities.

13. The information in the report on Iraq's procurement of missile-related items, components and materials correlate well with UNMOVIC findings. UNMOVIC

found evidence that, from 1999 to 2002, Iraq had procured materials, equipment and components for its missile programmes. In several instances the items procured were used by Iraq in the production of the Al Samoud-2 missile system that was determined by UNMOVIC in February 2003 to be proscribed. The procurement activity included the acquisition of components and equipment for the manufacture and testing of missile guidance and control systems and different pieces of missile-related production equipment and technology.

14. The report states that after 1991 Iraq had procured dual-use items and materials pertaining to weapons of mass destruction. UNMOVIC would need to have access to the supporting data to understand what linkage existed to proscribed chemical or biological weapon activity or intentions to resume such activity.

15. UNMOVIC inspections revealed that, during the period from 1999 to 2002, Iraq had procured a variety of dual-use biological and chemical items and materials, including chemicals, equipment and spare parts. However, UNMOVIC has found no evidence that these were used or planned to be used for chemical weapon or biological weapon purposes. Although some of these goods may have been acquired by Iraq outside the framework established under Security Council resolutions, most of them were declared by Iraq to UNMOVIC in its 1998-2002 backlog of semi-annual monitoring declarations provided by Iraq in October 2002. These included the acquisition by Iraq of some declarable chemical process equipment and chemicals that were used by Iraq for non-proscribed purposes but were procured outside the scope of the notification mechanism adopted by the Security Council in resolution 1051 (1996).

Biological weapons

16. The report of the Iraq Survey Group on Iraq's biological weapon programme largely confirms the understanding of UNMOVIC. Much of the information, which relates to the history of the programme up to 1991, is also contained in various Iraqi declarations to the United Nations, Security Council document S/1999/94 and the publicly available UNMOVIC cluster document given to the Security Council on 7 March 2003. The results from interviews conducted by the Iraq Survey Group have generally reinforced information contained in earlier Iraqi statements and declarations, such as the 1996 full, final and complete declarations, the December 2002 biological weapon currently accurate, full and complete declaration, supporting documents, interviews and discussions held by UNMOVIC in 2003. Much of the Iraq Survey Group assessment refers to possibilities and intentions rather than demonstrating continuation of a biological weapon programme.

17. Intensive searches and enquiries by the Iraq Survey Group have not revealed the existence of any new biological weapon production or research facilities, undeclared biological bulk agents, competing programmes, weapon systems, or scientists not previously known.

18. Perhaps the most significant new information regarding the past biological weapon programme in the report concerns the bulk production and disposal of anthrax. Interviews conducted by the Iraq Survey Group resulted in more testimony, similar to that obtained by the Special Commission, substantiating the claim that greater quantities of anthrax were produced than declared at Al Hakam and possibly the foot and mouth disease vaccine plant. According to the report, "information obtained by the Iraq Survey Group from several sources with access to Iraq's former

biological weapon programme, and other related historical information show that Saddam's regime probably did not declare the production of thousands of litres of *B. anthracis*". UNMOVIC had estimated in the cluster document that an additional 7,000 litres of agent could have been produced based on the capacity of available production equipment, growth media availability and production time to mid-January 1991. Information in the report on growth media usage and unaccounted for stainless steel storage tanks indicates that the total quantity of anthrax production remains an unresolved issue.

19. The new information, which relates to the disposal of bulk quantities of anthrax in the Radwaniyah area of Baghdad in 1991, suggests that it was destroyed and dumped about three kilometres from one of the presidential palaces. Sampling and analysis data confirming the information could shed important light on this. The report notes that the persons interviewed had offered several different accounts of the fate of the bulk anthrax produced before 1992. However, most of the statements were consistent in placing the date of destruction of the bulk anthrax agent sometime in 1991. The report maintains that since there has been no documentary evidence in support of these statements, it was not possible to reach definitive conclusions.

20. With regard to the two trailers found in 2003, the report concludes that they were designed for the production of hydrogen and not biological weapon agent. This accords with the UNMOVIC analysis based solely on open source data. The Iraq Survey Group does not discount the possible existence of mobile biological weapon agent production facilities; there is no evidence available to UNMOVIC that Iraq had produced or acquired such facilities.

21. The report states that, despite extensive investigations, the Group found no evidence that Iraq either possessed or was working on smallpox as a biological weapon agent. The report notes that vials suspected of containing vaccine were in fact mislabelled and found to contain *Brucella antisera*. The use by Iraqi scientists of incorrectly marked vials or ampoules, including those of smallpox vaccine, is similar to the previous findings of the Special Commission and of UNMOVIC investigations in December 2002.

22. The report's findings and conclusions with regard to dual-use facilities are consistent with inspection reports and activities conducted by both the Special Commission and UNMOVIC. The Iraq Survey Group conclusion that there was no evidence of proscribed activity since 1991 is consistent with the UNMOVIC assessment. The status of a number of microbiological isolates and dual-use equipment declared by Iraq, which had been subject to UNMOVIC monitoring, remains a question.

23. Another significant unresolved biological weapon issue is the fate of the agent seed stocks prepared from imported vials of biological weapon agent stocks. The report concurs with the UNMOVIC position that the statement by a senior Iraqi scientist to United Nations inspectors and the Iraq Survey Group that sometime in the early 1990s an official order had been given to destroy them could not be verified. This remains one of the UNMOVIC verification concerns.

24. Overall, the Iraq Survey Group report provides useful information on the biological weapon programme derived from interviews, on-site activities and sampling and analysis, which adds to the UNMOVIC knowledge of the programme.

Because of limited data, inconsistencies in interview results and sometimes unsubstantiated sole source reporting, many of the conclusions in the report include caveats.

Chemical weapons

25. The report of the Iraq Survey Group states that Iraq's chemical weapon programme had been crippled by the 1991 Gulf war and judges that Iraq unilaterally destroyed its undeclared chemical weapons stockpile in 1991. The report adds that the Group had found no evidence of any active chemical weapon-related research or production activity. The report also determines that Iraq had not abandoned its desire to resume a chemical weapon programme should sanctions be lifted and the conditions favourable. It also concludes that Iraq had retained expertise and capabilities in all of the relevant areas: research, production and weaponization.

26. The report indicates that, in addition to the 14 empty 122-mm chemical artillery rockets found by UNMOVIC, during the period from March 2003 to September 2004, the Iraq Survey Group had found a further 53 old chemical munitions, an analysis of which indicated the presence of remnants of chemical weapon agents and their degradation products. All of the munitions were identified as having been produced before 1991.

27. The unresolved issue of accounting for approximately 550 pieces of 155-mm mustard-filled artillery shells continues to be of concern to UNMOVIC as analytical tests by UNMOVIC in 2003 of identical shells had shown they contained mustard of high purity. Over a period of time, in its declarations to the United Nations, Iraq offered several different explanations of the fate of the shells, none of which were satisfactory to the Special Commission or UNMOVIC. It would appear from the report that many of the same explanations were given to the Iraq Survey Group by former Iraqi officials. However, the report also includes a new explanation, namely, that the shells had not been destroyed and that as late as March 2003 they had been in the possession of the Special Republican Guard. Further information on this matter would be useful.

28. One of the most important chemical weapon disarmament issues identified by UNMOVIC relates to Iraq's research, production and disposal during the period 1990-1991 of the nerve agent VX and its precursors. The report states that Iraq had not adequately explained and accounted for its VX production and weaponization activities. According to the report, the Iraq Survey Group relied primarily on the interview of an Iraqi scientist who appears to have repeated information from Iraq's declarations and claims to have supervised the unilateral destruction of bulk VX agent and have knowledge of the destruction of its precursors. The report further provides the information that three aerial bombs that Iraq declared as having been filled with VX for stability tests and destroyed after the tests had failed, had actually been dropped in an undisclosed area in the Islamic Republic of Iran in 1988. There is no indication in the report of the source of this information or of any corroborating evidence. Concerning other unresolved chemical weapon issues, the report does not contain any new information as to why traces of VX degradation products were found on fragments of missile warheads, the quantities of VX Iraq produced in 1990 and the method of production followed by Iraq as well as on the results of research on VX carried out in that year. These and other VX-related questions are raised in the UNMOVIC cluster document.

29. The report of the Iraq Survey Group also includes an assessment of Iraq's intentions to conserve its capability to resurrect a chemical weapon programme, including VX. According to the report, in 1996, Iraq began implementing, and coordinated until 2003, large and important projects for the indigenous production of chemicals to improve its self-sufficiency in their availability. The report draws attention to three commercially available chemicals listed in an Iraqi document entitled "Programme for the indigenous production of chemicals". The Group cites their usefulness for VX production by one of the methods known to have been studied by Iraq. However, the report does not indicate whether the programme had any connection with VX or any other chemical weapon agent. It is noted that the production of any nerve agent, such as VX, would also require certain specific organophosphoric precursors not listed in the Iraqi document. These precursors do not have much civilian application and are not commonly available worldwide.

30. The report states that Iraq's chemical industry had the capability to restore chemical weapon production as a result of improvements achieved during the period 1996-2003. It also states that Iraq probably had the capability to produce large quantities of sulphur mustard in a short time, using locally available chemicals. At the same time, it recognizes that Iraq's industry was still struggling with serious shortages in many areas. UNMOVIC inspected all key facilities potentially capable of involvement in a chemical weapon programme and determined that some of them could be adapted for such a purpose, but only with major reconfiguration of the equipment.

31. The report states that the Iraq Survey Group also investigated the Iraqi Intelligence Service and its possible relationship with Iraq's biological and chemical weapon programmes. The report provides detailed information on "a set of covert laboratories to produce, research and test various chemical compounds", which were maintained throughout the period 1991-2003 by the Iraqi Intelligence Service. The information provided suggests the laboratories had pursued research and production of small-scale, delayed-action assassination methods. Information from interviews suggested that ricin, sulphur mustard, nitrogen mustard, and sarin might have been used or synthesized by these laboratories. The report points out that the Group found it difficult to draw definitive conclusions from its interviews because of conflicting and inconsistent information, a lack of physical evidence or forensic data. The report also states that the available evidence on the Iraqi Intelligence Service programme, which includes results from sampling and analysis, was not strong enough to conclude that this activity was related to the biological or chemical weapon programmes. It is not clear from the report that the laboratories would have met the relevant criteria regarding activities, equipment and materials that would make them subject to monitoring. UNMOVIC had been aware of the historical involvement between the Iraqi Intelligence Service and Iraq's weapons of mass destruction programmes, including allegations of human testing, and some of the facilities were inspected in the past.

Missiles

32. The information contained in the report of the Iraq Survey Group does not change the accounting of the Scud missiles from earlier calculations made by United Nations inspectors. The Group stated that it had obtained some relevant documentation on the matter that Iraq had not provided to UNMOVIC. As was the case with the Special Commission and UNMOVIC, the Group was unable to

account for 2 out of 819 imported Scud missiles. Nevertheless, the report concludes that the weight of evidence suggests that Iraq did not retain any Scud missiles after 1991.

33. From 1999 until 2002, Iraq pursued two major missile programmes, the liquid propellant Al Samoud-2 and the solid propellant Al Fatah. The report states that up to 36 Al Samoud-2 missiles were unaccounted for, based on unconfirmed comments from interviewees and reports from coalition forces. Using similar information, the Iraq Survey Group estimated that up to 34 Al Fatah missiles also remained unaccounted for. Additionally, according to the Group, Iraq had imported more than 680 SA-2 engines after 1998. Iraq had declared to UNMOVIC only 380 SA-2 engines imported during that period.

34. When UNMOVIC inspectors were withdrawn from Iraq, the destruction of the proscribed Al Samoud-2 missiles and associated items was still in progress. As UNMOVIC reported to the Security Council in its thirteenth report, 25 Al Samoud-2 missiles remained to be destroyed as well as 326 SA-2 engines and 38 Al Samoud-2 warheads. The Al Fatah missiles, on which no decision had been made whether they were proscribed, were monitored by UNMOVIC inspectors until they withdrew from Iraq. At that time, UNMOVIC had recorded 37 complete Al Fatah missiles plus 12 that were still in production. The Iraq Survey Group reported that it had been unable to reconcile the status of the Al Samoud-2 inventory and that a full accounting of Al Fatah missiles may not be possible. It did not report on the status of any SA-2 engines. The status of all these items remains a question.

35. The report describes several missile projects which would have had proscribed ranges that were undertaken during the period 1999-2002 when United Nations inspectors were absent. These included liquid propellant missiles using clustered SA-2 engines, the conversion of SA-2 surface-to-air missiles to surface-to-surface missiles, a large solid propellant missile and the conversion of the HY-2 anti-ship missile to a land-attack cruise missile called Project Jenin. The Iraq Survey Group information on these projects was drawn largely from interviews with Iraqi individuals. Many of these interviews, however, produced a conflicting or inconsistent picture as to the nature, scope and progress of the programmes. It is difficult to assess the significance of other items obtained by the Group and presented in the report. For example, the Iraqi engineering drawings of clustered SA-2 engines and of a launcher for the large solid propellant missile appear rudimentary and there is little technical detail provided of the helicopter engine under modification for use in Project Jenin. UNMOVIC commented on Iraq's development work on missiles in its fifteenth quarterly report to the Security Council (S/2003/1135).

36. The report of the Iraq Survey Group notes improvements in Iraq's infrastructure that would increase its ability to produce large solid propellant motors. One example cited was that of Iraq rebuilding and using a previously destroyed large solid propellant mixer. The mixer was said to have been destroyed again by Iraq before the return of inspectors. UNMOVIC has no evidence suggesting that this had occurred. Such a mixer would have been essential for a large solid propellant missile programme.

37. According to the report, after 1998, Iraq had contacted certain foreign countries in an attempt to acquire long-range delivery systems and to assist in Iraq's

indigenous missile programmes. UNMOVIC had been unaware of the extent of this post-1998 procurement effort.

38. The report includes some new information on Iraq's programmes for remotely piloted vehicles and unmanned aerial vehicles. The report's conclusion that Iraq's recent programmes for such vehicles were designed for conventional military purposes, such as surveillance, electronic warfare and air defence, and not for the delivery of chemical or biological weapon agents is in line with that reached by UNMOVIC and reported in its eighteenth quarterly report (S/2004/693).